

LISTING OF CLAIMS

1. (Currently Amended) A method of handling data packets in a Wireless Local Area Network (WLAN), comprising:

(a) contending for control of a medium over which data is to be transmitted, by a plurality of nodes in the network;

(b) when control of the medium has been established by a first node in the network by said contention in step (a), transmitting a first data packet from that first node, which has control of the medium, to a second node in the network;

(c) receiving, at that second node, the transmitted data packet;

(d) generating, at that second node, a combined data/acknowledgement packet which contains both an acknowledgement of receipt of the said first data packet by the said second node and also a second data packet intended for delivery to the said first node from the said second node; and

(e) transmitting the said combined data/acknowledgement packet from the said second node to the said first node.

2. (Original) The method of claim 1, further comprising:

(f) receiving, at the first node, the said combined data/acknowledgement packet;

(g) generating, at that first node, a further combined data/acknowledgement packet which contains both an acknowledgement of receipt of the said second data packet by the said first node and a third data packet intended for delivery to the said second node from the said first node; and

(h) transmitting the further combined data/acknowledgement packet from the said first node to the said second node.

3. (Original) The method of claim 2, further comprising:

(i) receiving at the second node, the said further combined data/acknowledgement packet;

(j) generating, at that second node, a still further combined data/acknowledgement packet which contains both an acknowledgement of receipt of the said third data packet by the said second node and a fourth data packet intended for delivery to the said first node from the said second node; and

(k) transmitting the still further combined data/acknowledgement packet from the said second node to the said first node.

4. (Original) The method of claim 3, further comprising: iteratively repeating steps

(f) to (h) for each of the fifth, sixth, seventh,... nth data packets.

5. (Original) The method of claim 4, wherein the iterative repetition terminates when either a maximum time of medium control by the first node is reached, or when there are no further data packets to be transmitted.

6. (Previously Presented) The method of claim 1, wherein the step (a) of contending for control of the medium is carried out in accordance with carrier sense multiple access with collision avoidance (CSMA/CA).

7. (Original) The method of claim 6, wherein the step (a) of contention for control of the medium is in accordance with Enhanced Distributed Coordination Function Channel Access (EDCA).

8. (Previously Presented) The method of claim 2, further comprising, following receipt of the, or the further, data/acknowledgement packet, the step of extracting, from that data/acknowledgement packet, the data contained therein, and extracting the acknowledgement therefrom as well.

9. (Original) The method of claim 8, wherein the step of extracting are carried out when it is determined by the receiving node either that the received packet is longer than an acknowledgement of receipt alone, or that the received packet has a header which indicates that both data and acknowledgement are contained therein.

10. (Currently Amended) The method of ~~any~~ claim 1 wherein the step of generating a combined data/acknowledgement packet comprises either concatenating an IEEE 802.11 ACK frame with a data payload, or comprises altering a header to an IEEE 802.11 data frame to indicate that the frame carries both a data payload and an acknowledgement of receipt.

11. (New) A method, comprising:

contending by a first node for access to a medium for transmission of a first packet to a second node;

granting the first node contention access to the medium;

communicating the first packet over the medium to the second node during the contention access granted to the first node;

receiving the first packet by the second node; and

sending a second packet by the second node over the medium to the first node during the contention access granted to the first node, the second packet comprising a combined data/acknowledgement packet which contains both an acknowledgement of receipt of the first packet by the second node and also data intended for delivery to the first node.

12. (New) The method of claim 11, further comprising:

receiving the combined data/acknowledgement packet by the first node; and

sending a third packet by the first node over the medium to the second node during the contention access granted to the first node, the third packet comprising a further combined data/acknowledgement packet which contains both an acknowledgement of receipt of the second packet by the first node and also data intended for delivery to the second node.

13. (New) The method of claim 11, wherein contending comprises contending for access in accordance with carrier sense multiple access with collision avoidance (CSMA/CA) protocol.

14. (New) The method of claim 11, wherein contending comprises contending for access in accordance with Enhanced Distributed Coordination Function Channel Access (EDCA) protocol.

15. (New) The method of claim 11 wherein the combined data/acknowledgement packet is an ACK frame concatenated with a data payload.

16. (New) The method of claim 11 wherein the combined data/acknowledgement packet is a data frame having a header altered to indicate that the frame carries both a data payload and an acknowledgement of receipt.

17. (New) A method, comprising:

engaging by a first node in a contention mode access process with respect to a shared communications medium;

receiving by the first node of a granted contention access to the communications medium;

communicating a first packet over the communications medium to a second node during the granted contention access;

receiving the first packet by the second node; and

communicating by the second node a second packet over the communications medium over the medium during the granted contention access, the second packet comprising a combined data/acknowledgement packet which contains both an acknowledgement of receipt of the first packet by the second node and also data intended for delivery to the first node.

18. (New) The method of claim 17, wherein engaging comprises contending for access in accordance with carrier sense multiple access with collision avoidance (CSMA/CA) protocol.

19. (New) The method of claim 17, wherein engaging comprises contending for access in accordance with Enhanced Distributed Coordination Function Channel Access (EDCA) protocol.

20. (New) The method of claim 17 further comprising exchanging combined data/acknowledgement packets between the first and second nodes during the granted contention access until a maximum time of contention access granted to the first node expires.